

Notice of Allowability	Application No.	Applicant(s)	
	09/839,459	MUKHERJEE, SHUBHENDU S.	
	Examiner	Art Unit	
	Daniel Pan	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the paper filed on 09/24/04.
2. ☒ The allowed claim(s) is/are 1-15, 18-23 (claims 16,17 have been canceled).
3. ☒ The drawings filed on 19 April 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date ____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other ____. |

DANIEL H. PAN
PRIMARY EXAMINER
GROUP

Reasons for Allowance

None of the prior art of record teaches :

a) the combined features of the pipelined simultaneous and redundantly processor, the cycle counter, set of instruction processed by the simultaneous and redundantly processor in the leading thread and also in a redundant trailing thread to detect the transient faults, and the loading and replication of the cycle count in the trailing thread when the read cycle count command appears in the leading threads (claims 1-3);

b) the combined features of the pipelined simultaneous and redundantly processor, the cycle counter, the cycle count queue, the set of instructions processed by the simultaneous and redundantly processor in the leading thread and also in a redundant trailing thread to detect the transient faults, and the loading and storing of the cycle count in the trailing thread when the read cycle count command appears in the leading threads (claims 4,5);

1. Claim 8-15 are allowable over the art of record for reciting the combined features of the two redundant copies of the program thread and the avoidance of the false error caused by the incorrectly replicating the cycle count in the redundant program threads by the actual values from the cycle count reads in the first program thread for second program thread.

2. Claim 18-21 are allowable over the art of record for reciting the combined features of the two separate threads including substantially the same instructions , probing of the cycle counter to fetch the count value when the leading thread requesting the cycle count, the storage of the cycle count in the queue, the probing of the cycle

Art Unit: 2183

count queue for the count value for corresponding cycle count requests in trailing thread, the execution of the cycle count requests in leading thread and training thread, and the entries of the queue comprising the program count identifier and the cycle count .

3. Clams 22-23 are allowable over the art of record for reciting the combined features of the stalling the execution of the leading thread when the read cycle command was encountered in the leading thread , the execution of the trailing thread until the RCC command was encountered in the leading thread, and the fetching of the single copy of the cycle count from the counter and distribution of the count to both threads.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 703 305 9696, or the new number 571 272 4172. The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 703 305 9712, or the new number 571 272 4162. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

Art Unit: 2183

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

21 Century Strategic Plan

DANIEL H. PATT
PRIMARY EXAMINER
GROUP